

ABSTRACT

A psychophysiological signal processing system uses mental and physical activity to determine the intent of an examinee to conceal information or deceive an examiner or trained observer. Brainwaves; eye, heart, muscle, and/or speech activity; skin conductance, resistance, and/or impedance; body temperature, position, posture, expression, and/or gestured motion; blood flow and volume; and stress-indicating measures like respiration, blood pressure, heart rate, and/or other such phenomena that can be sensed from the body may be utilized. A computer-adaptive system analyzing one or more of these psychometric data may be used in combination with a virtual reality system presenting stimuli to the examinee to enhance existing polygraph methods used for individual screening, debriefing, identification and/or certification of information, interrogation, and/or the detection of deception. The virtual reality system may present stimuli designed to evoke a particular measurable response from, confound attempts to avoid detection of deception by, or otherwise distract the examinee.